

Part IV Needs of industry and the community

Introduction

1. S207(b) RMA requires the special tribunal to have regard to the needs of primary and secondary industry and the community.
2. Using water from the Rangitata River for current and potential abstraction for irrigation was the key industry focus. There was a high acceptance amongst submitters about community needs for irrigation water, and there was fairly general agreement that continued abstraction at about current levels was not inappropriate. However, several parties proposed different regimes for abstraction with higher minimum flows, with or without flow-sharing above the minimum. The key variations are outlined in Part VI. Water users were concerned that any increase in minimum flow would reduce the certainty of supply, possibly below acceptable levels.
3. Parties looking to develop further irrigation were generally seeking allocations above the existing uses and demonstrated what benefits would, in their view, arise from increased irrigation. Some were proposing to develop storage options that would increase reliability of supply and/or enable flood flows to be captured.

Consents

4. Data on consents and consent applications was provided by ECan (witness: Pascoe & report U01/40).
5. At May 2001 there were 43 water permits to divert dam and take from the Rangitata River catchment with a combined maximum rate of take of 32.787 m³/s (31.970 surface water takes and 0.817 m³/s groundwater). It was made up as follows:

Surface water permits (m³/s)

RDR	30.70
non-RDR stockwater	1.007
non-RDR irrigation	<u>0.263</u>
	31.970

Groundwater

6. At May 2001 there were 26 permits (table 1, ECan report U01/40) to take groundwater from the Rangitata catchment, including McKinnons Creek, totaling 0.817 m³/s.

Other consents

7. There were five discharge permits:
 - two for irrigation by-wash
 - one not being exercised (Rangitata Salmon Ranch) (this has conditions regarding suspended sediment and BOD levels)
 - two for the RDR sandtrap that returns sediment to the river (one for dewatering during maintenance and one for returning sediment to this river, subject to stringent conditions)
8. The only "damming" of water in the Rangitata River is behind the weir at the intake to the Rangitata Diversion Race. This raises the water level on average 2.5 m above the natural riverbed.

Stockwater and domestic supplies

9. In addition to the use of Rangitata River water for stockwater under the consents granted there will be other stockwater takes that are permitted by s14(3)(b) of the RMA. ECan consider that these are likely to be very small and have a negligible effect on both groundwater and surface water resources.
10. ECan did not refer to domestic water use under s14(3)(b) of the RMA and we assume that this use is negligible.

Low flow rules - McKinnons Creek.

11. In recent years, minimum flow rules have been set on consents granted for taking water from McKinnons Creek and from nearby shallow groundwater. The rules vary and ECan noted that if this order sets minimum flow rules for this creek then it would be useful to choose a single site that can be easily and accurately gauged and where rules can be set to protect the instream values. One possible site is Wallaces Bridge where a minimum flow of 300 l/s has been set for some consents. We note that this site and this minimum flow are those set out for McKinnons Creek in the draft NRRP (see Part V).

Consent applications

12. The tribunal was told that in 1999/2001 consent applications for a total of 16.94 m³/s of new surface water abstractions were lodged by:
 - Ruapuna Irrigation Ltd (8.0 m³/s for irrigation) (advertised 18/12/1999)
 - Rangitata South Irrigation (5.94 m³/s for irrigation) (advertised 12/4/2000)
 - Ashburton River Irrigation Association Inc (3.0 m³/s to augment flows in Ashburton River) (not advertised - further information requested).

13. Rangitata Diversion Race Management Ltd has lodged applications for replacement consents at the same rate and volume of abstraction and subject to the same low flow provisions. These were advertised on 10/2/2001. At the time of our hearing ECan was seeking further information from the applicant.
14. At the time of our hearing Ruapuna and Rangitata South applications had been advertised, and the Ashburton River Irrigation applications were on hold awaiting further information. Both Ruapuna and Rangitata South had also been asked for more information.
15. Between July 1999 and April 2000 there were 9 new applications to take a total of 1.384 m³/s from groundwater from aquifers adjoining the Rangitata River between SH 1 and the sea. The takes sought are from a mix of shallow and relatively deep groundwater. ECan estimates that the stream depletion effect on McKinnons Creek or Rangitata River from these will be about 100 l/s. At the time of the hearing some of these were on hold awaiting further information, others were on hold at the request of the applicant.

Rangitata Diversion Race

16. The Rangitata Diversion Race (RDR) dominates abstraction from the Rangitata River. It is a multi use water supply conduit built to supply water for irrigation, power generation and stock water. Rangitata Diversion Race Management Ltd (RDRM) is responsible for the operation and maintenance of the RDR.
17. The intake is sited at the lower end of the gorge and operates continuously except for a short period in May once every three years when the main race is closed for maintenance purposes. The main race, some 68 km long, provides water for three irrigation schemes totaling around 64,000 ha. In addition, the race services two small hydro power stations: Montalto and Highbank. These are owned and operated by TrustPower. Water from the Highbank tail race is discharged into the Rakaia River. The RDR also supplies stock water to Ashburton District Council and is used for various recreation pursuits.
18. The RDR commenced operation in 1945, and has been embedded in the local and regional economies and geography for over 54 years. Take up of water for irrigation did not gather momentum until the mid 1970s and in the earlier years much of the water take was used for power generation purposes. That situation has since reversed with irrigation now being the predominant user. Overall operating efficiency of the RDR is in the range 94-98%.
19. The capital value of the scheme is \$25m; and replacement value is estimated to be \$40m. (Lees, TrustPower). This includes the large RDR canal, the three community irrigation schemes and the two power stations, but not the supply race and gate structures.
20. During the period September to April priority is given to meeting irrigation needs. Any water surplus to those needs is retained in-race and used for power generation. For the remaining winter months, May-August, the irrigation

schemes are shut down and water taken into the intake is used solely for power generation purposes.

TrustPower

21. TrustPower has a 12.5% shareholding in the RDR and currently contributes 45.1% of the operating costs apportioned by water usage. The company owns and runs two hydro power stations based on the RDR:
 - Highbank station which operates whenever there is water available from the RDR.
 - Montalto which is on the RDR and utilises a 7m fall in the race.
22. Power generation provides positive economic benefits to the region and NZ. Reduction in water supply to the RDR (e.g. with an increased minimum flow) will affect power generation as well as irrigation and will increase the costs of both uses relative to the benefits.

Consents

23. RDRM holds a consent to take 28.315 m³/s. This consent expired on 1 October 2001 but in accordance with Section 124 of the Resource Management Act, the Company continues to exercise the consent pending consideration and determination of its applications for new consents. There has long been some controversy surrounding the authorisation enabling RDR Management's consent to take 28.315 m³/s. We were provided with considerable detail on this matter, but most parties did not make any claims that RDRM was operating in an unauthorised manner. However, in their written submission (1070) Te Rūnanaga o Arowhenua stated that they are particularly concerned that the RDR is illegally taking water. They contend that the RDR is legally entitled to take only 27 m³/s and water that should be left instream is being taken illegally. For our purposes we consider that 30.7 m³/s is the current permitted take.

Current regime

24. The RDR operates under low flow rules set up in a non-statutory management plan ("the 86 plan" - see Part I for some details). There is widespread agreement that these rules have worked well for most, if not all, parties. The needs of an irrigation program which has to meet daily changes in the total flows available are reflected in this plan which provides for a stepped regime, and generally mirrors the natural master base flow recession curve. This also allows prediction of pending restrictions.
25. RDRM calculated that, under the current regime, the RDR has the following amounts of water available:
 - Up to 30.7 m³/s for 68% of the time
 - Up to 26.5 m³/s for 74% of the time

- Up to 21.8 m³/s for 88% of the time
 - Up to 18.9 m³/s for 97% of the time
26. RDRM noted that the impact of the 1986 Plan flow sharing regime on the RDR intake is significant, with restrictions being required in every year of record. RDRM contested statements by Mosley (section 3.3 of Mosley (2001)) that “abstraction is seldom restricted under this rule” and consider that this is not consistent with the frequency at which actual restrictions have been imposed on the RDR since 1986.
 27. The RDR abstraction has modified the hydrological regime downstream of the RDR intake since 1945. The effect of the abstraction is most noticeable during times when the river flow is at or below approximately 100 m³/s. Because of the speed at which the river flow rate changes during freshes and floods, the abstraction has only a limited capacity to reduce the number of flood peaks in excess of 250 m³/s.
 28. Engelbrecht (RDR) described how the effect of the RDR scheme is to allow production through a dry Canterbury summer and to overcome soil moisture deficits whenever they may occur through the irrigation season. He stated that, based on average climatic conditions, over \$120 million of farm gate values of additional farm production is created directly from irrigation provided by the RDR.

Juvenile salmon

29. Diversion of juvenile salmon into the RDR during the downstream migration period has long been an issue. Based on research over recent years RDRM is looking closely at the installation of an acoustic fish deflection system at a cost of about \$300,000 plus ongoing maintenance costs. Jellyman noted that the main impact of the RDR on the fishery is entrainment of juvenile salmon but that the successful incorporation of an acoustic diversion device at the intake could potentially increase the numbers of adult salmon by up to a third.

Other uses

30. The race is open for use by others. The exceptions are certain hazardous areas such as the intake and other structures, and areas which remain in private ownership. The race supports a number of recreational uses. It has a sustainable brown trout population and provides the only year-round fishery resource for anglers in Mid-Canterbury. Trout fishing is common along the whole of the race. Hunting wild fowl including mallards, grey ducks, paradise ducks and Canada geese is a popular pastime along the race. The canal is also popular with local residents for swimming, canoeing, kayaking and even hosts a multi-sports event.
31. Other non-water based recreational activities include tramping along the race (e.g. the Methven walkway which is part of the National Walkway system), picnicking and photography.

Water Conservation Order

32. RDRM was opposed to a water conservation order and requested that it be declined in its entirety, but noted that if a water conservation order can be justified then it should specify and protect the RDR and its current level of abstraction. RDRM also noted how the applicant had recognised the importance of RDR to industry and the community and had included explicit provision in its suggested draft water conservation order for the RDR on similar terms and conditions to the present.
33. TrustPower also requested that the application be declined, but noted that what they sought in terms of the application was to secure outcomes which allow them to remain commercially viable. They noted that the draft application prepared by the Fish and Game Council essentially did this and are not opposed in principle to an order like this, but would be opposed to one that restricted the availability of water beyond the status quo. This, in its view, would significantly diminish the positive social and economic effects that the scheme induces, without justification. TrustPower described how it is an environmentally responsible company and has implemented an environmental management system for the power station operations.
34. RDRM considered that the regimes advanced by ECan, DoC and Mosley place additional restrictions, some more severe than others, on irrigation reliability, particularly in the critical spring, late summer and autumn periods.
35. As an example, they used the flow records for 2000-2001 to examine the percentage water availability under the proposed minimum flow regimes and determined that half the time in some months, particularly September, February and March, 25-33% of the scheme area could not be irrigated, should one or other of the ECan, Mosley and DoC options be adopted.
36. These proposals would also reduce the water available to TrustPower which noted that any regime which threatens its use of water, affects and threatens its operations, and there is a corresponding effect on its contribution to RDR funding.

Water needs within the Rangitata catchment

37. Most of the abstracted water is used beyond the Rangitata River catchment. Many of the farm businesses within the catchment, especially those above Arundel made submissions regarding their needs for water. Some were opposed to a water conservation order, others were not. However, their concerns were that they, too, have development opportunities on their properties, and these will generally require water. Although this water may be available in tributaries to the Rangitata River, they noted that they could be denied access to it through a water conservation order. A potential need for water storage was also noted.
38. Other concerns that were noted included the need to maintain river protection works, provide water for fire-fighting, domestic and stock water supply.

Future needs of industry and the community

39. Irrigation was the key water use topic presented to us. Quantity and reliability of supply were both important issues. Water storage either within the Rangitata, or elsewhere, was discussed both as a means of increasing the reliability of supply and to capture water from higher flows in the river.
40. Irrigators told how reliability of supply is vital and that unplanned restrictions reduce both the quality and quantity of the crop. Mayfield Hinds Irrigation Society told us that “as irrigators on a flow of the river irrigation scheme, we farm in constant fear of restrictions especially in the shoulders of the season.”
41. Irrigator groups and farmer organisations were generally opposed to a water conservation order, noting that the 1986 plan still works, and preferring a management plan developed by ECan. However, many were also strongly critical of ECan for not yet developing a plan for the catchment. These groups seemed to be of the view that a plan would give them more options for obtaining irrigation water than they felt that they would have under a water conservation order. Mayfield-Hinds Irrigation Society considered that a water conservation order would “lock the water resource of the Rangitata into today’s thinking”. The Ashburton District Council, although opposed to an order and preferring a regional plan supported the applicant’s minimum flow regime, stating that this should be incorporated into a plan. We note that this is not what ECan is proposing in their draft NRRP (see Part V).
42. Expert witnesses gave evidence on the importance of the RDR to the current viability of primary production in mid-Canterbury and estimated the potential economic gains that could be achieved through increased irrigation but would be lost if a water conservation order prevented any further irrigation development from the Rangitata River. They also discussed the effects on existing irrigation of increasing the minimum flow in the Rangitata River.

Effects on present irrigation

43. Engelbrecht (RDR), a farm consultant based in Canterbury, described the need for the reliability of irrigation water supply, both in volume and availability, and stated that less than 90% reliability has significant implications for farmers, particularly in a low and unreliable rainfall climate such as much of Ashburton district. He considered that a high degree of reliability of supply is essential to maintain high quality production of stock and specialist seed crops, and to make dairying viable. Increased uncertainty of supply would mean that farming practices would be scaled down or land uses changed to accommodate the changes in water supply.
44. Engelbrecht considered that the Ashburton district economy and local infrastructure is strong and vigorous and the RDR is a crucial contributor. He noted that the certainty of the irrigation is as much an issue as the volume of irrigation and that with a higher minimum flow run-of-the-river supply irrigated farming in the RDR schemes could become something of a lottery.

45. He described how the benefits are achieved with a relatively low scheme duty (i.e. the l/s/ha that each scheme is allotted) of 0.45 l/s/ha. He compared a number of irrigation schemes on the basis of litres per second per hectare supplied to each of the irrigation schemes. Each of the three irrigation schemes served by the RDR take less water per hectare than any other scheme except the Waimakariri. He noted that it is accepted that to irrigate at a rate of less than 0.6 l/s/ha is deficit irrigating. The figure of 0.6 l/s/ha allows for the replacement of water in the soil lost through evapotranspiration.
46. From a farm consultant's point of view, Engelbrecht considered that the ECan proposals are unworkable. The uncertainty and unreliability of irrigation water flow would be so serious to a farm management programme that the effects on production and financial performance would be intolerable. He found the DoC proposals even more severe in their potential adverse effects particularly in the early/mid spring, while the Mosley proposal is even more serious again, during the February/March period.
47. Overall he noted that the suggested flow regimes recommended by ECan, DoC and Mosley would impose serious constraints on current levels of irrigation water supply from the Rangitata River in all respects, including certainty, reliability and adequacy. Engelbrecht considered that these constraints would lead to reductions in farm income, and therefore reductions in the economic benefits to the community.
48. Sanderson (RDR), an economist, endeavoured to assess the impact of altered flow regimes on the agricultural sector, but noted that this is difficult because the present RDR schemes are already key elements in the pasture and mixed cropping economy of Mid-Canterbury and likely changes would be complex and difficult to model.
49. He found that the generation of hydro-electricity provides a reasonable level of economic activity in the District and also some certainty and security to power supply. Were the proposed restrictive regimes introduced (e.g. DoC, ECan), the generation level would also be reduced. The main effects on the community would be that the contribution of TrustPower to RDR operating costs would be reduced, increasing the cost of water to irrigators. The lower level of generation would mean that more 'imported' power would need to be purchased for the District, and the power price paid by the community and industry could be expected to increase. Generation would be reduced on average by 3.6% under ECan, 17.8% under DoC and 9.5% under Mosley. He noted, too, that there is wide variation between years, with the ECan rules showing a 14% reduction in one year of the historic flow record.
50. He noted that benefits from irrigation have contributed to social and physical improvement in the Ashburton district, in what would otherwise be a relatively harsh farming environment. The certainty it affords is central to attracting and retaining processing industries in the district. The direct, indirect and multiplier impact on the economy is marked, with added value of approximately \$108.9 million, as well as valuable employment opportunities.

51. Sanderson noted that if the volume of water available for irrigation is reduced in terms of the competing models, those proposed by DoC and Mosley are severely restrictive. Reversal of land back to dry land production is certain. The impact of the ECan proposal, while less measured in overall volume, will impact more harshly in some areas, but its prime effect falls in the loss of water in crucial periods for irrigation. Mean loss of irrigation water compared with 1986 Plan is 9.4% under ECan, 26.3% under DoC and 33.7% under Mosley. He estimated that the increases in cost of irrigation water would increase by more than 12% under ECan and over 44% under DoC and Mosley scenarios.
52. With its relative certainty of water supply for farm production the RDR has provided the conditions for reliable production which has attracted processing industries to the District. The proposed restrictive water regimes reduce the certainty of supply of water in total and at key periods in the season. Adoption of these regimes is therefore likely to result in less certainty of reliable production which will tend to encourage processors to consider processing in other regions. The loss of any of the processing and related industries would have very significant adverse economic and social impacts on the community and the industry of the District.
53. McFarlane, a farm management consultant, (Ashburton Lyndhurst Irrigation Society Ltd) demonstrated how a 6.5% reduction in water availability reduces the efficiency of production by 14% in sheep, beef and dairying operations.
54. Mid-Canterbury Federated Farmers, who were opposed to a water conservation order, noted that they would like the irrigation season recognised as September 10 to May 9, rather than September 1 to April 30.
55. Walter Leuthwaite on behalf of Central Plains Irrigation, which is planning for increased irrigation between the Rakaia and the Waimakariri Rivers, noted that further restrictions on the Rangitata would increase competition for Rakaia water. He considered that a water conservation order would not provide for a balanced use of resources.

Industry - Potential Needs

56. Parties identified the following areas as being potentially affected by a water conservation order that limited further irrigation development:
 - Upgrading schemes operating off the RDR (67,000 ha). The low volume per hectare (0.45 l/s/ha of water) and unreliability of that water limit land-use options and farm productivity.
 - Mid Canterbury potential irrigation zone (108,000 ha), identified by Lincoln Environmental in a report prepared for the Ashburton Community Water Trust.
 - 4,000 ha identified as being within 1 km of the river that could face restrictions on groundwater takes if these are identified as being hydraulically connected to the river.

- 16,000 ha that could potentially be irrigated by a scheme taking water from the river - "Rangitata South scheme"
 - Mid Canterbury groundwater zone, identified by Lincoln Environmental in a report prepared for the Ashburton Community Water Trust. This zone depends on irrigation in the upper plains providing significant recharge to the groundwater zone.
57. Ford (for Ashburton District Council) identified the potentially irrigable areas as having a relatively large proportion of light soils and low average rainfall. Irrigation would provide more reliable plant growth enabling changes to more intensive and profitable land uses. He documented changes in land uses that could arise from the suggested irrigation development and showed that this would more than double the value of the outputs at the farm gate.
 58. Geoff Butcher (for Ashburton District Council) presented evidence regarding his estimates of the economic losses to the local and regional communities that would occur if a water conservation order prevented development of further irrigation based on the Rangitata River. He did not consider the effects of one suggested minimum flow versus another.
 59. In his analysis Butcher used levels of potential farm outputs presented by Ford (for Ashburton District Council). These were derived from information on soil type and climate, and assumed that dairying is the most profitable land use, and there would be conversion to dairying wherever technically feasible. The figures also assumed that all land would be irrigated provided it was technically feasible and economic to the farmer i.e. it provides a maximum economic impact.
 60. Butcher's conclusions were that a water conservation order that prevented further abstraction for irrigation from the Rangitata River would lead to a reduction of potential farm production valued at approximately \$483 million per year compared with full irrigation. He added to this a loss of farm value-added of \$280 million per year and 1,200 FTEs (full time equivalent workers) on farms in the irrigated area.
 61. He also described flow-on effects through the district and region of \$696 million per year that could be achieved from the additional farm production. This would be linked with employment of 6,400 FTEs on-farm and in processing industries.
 62. He noted that these figures are a market economic study and have not been weighed against other social and environmental costs and benefits, and that this would need to be done to determine which outcome best enables people and communities to provide for their social and economic well-being.
 63. Ministry of Agriculture and Forestry (MAF) evidence described studies underway to assess the potential water demand and availability for industry in the whole of Canterbury and noted that a decision on the water conservation order application now could foreclose future options as it would be based on partial information and the tribunal would therefore not be able to properly fulfil

the requirements of s207 of the RMA to have regard to the needs of primary and secondary industry and the community.

64. Bright (Lincoln Environmental) gave evidence on behalf of MAF about the long term water needs in Canterbury. This evidence was based on work being carried out for the Canterbury Strategic Water Study. Bright considered that Rangitata River management options should be assessed in terms of their long term impacts on multiple catchments because the management regime on any one component of the Canterbury Plains water resource system impacts on other components. He considered that there is enough water to meet all instream and consumptive demands in mid-Canterbury providing that:
- surface and groundwater in the Rangitata, Ashburton and Rakaia catchments are managed in an integrated manner
 - water harvesting and storage facilities are developed
 - there is the ability to take some (but not a lot) more water from the Rangitata catchment than is currently taken.
65. In evidence for the Ashburton Community Water Trust (ACWT) Bright also noted that run-of river systems alone would be unable to meet community goals but that there are feasible options for water supply and harvesting. He discussed one option which would take water from the Potts River to storage in the Ashburton catchment. There is very little data on the Potts River, either given in evidence or in the reports referenced. A mean flow estimate of 3.2 m³/s was based on data from a few gaugings. (Lincoln Environmental Report 4446/2). He noted that the viability of storage systems would be adversely affected if no further abstractions from the Rangitata River were available.
66. We note that the MAF scenarios show potential future water demand as low for the Rangitata catchment itself (11 m³/s) because of the small area of potentially irrigable land, but the high demands being in the adjacent catchments of the Ashburton (166 m³/s) and the Opihi/Orari (76 m³/s).
67. Rangitata Sustainable Trust also presented possible future water allocations where it would start abstracting a proportion of its required water when the Rangitata River at Klondyke was above 66 m³/s and an increased amount above 110 m³/s.

Proposed new developments (consent applications made)

68. Three new schemes to take surface water from the Rangitata River have progressed to consent application. At the time of the hearing two had been publicly notified and further information had been sought on the other application.

Ruapuna Irrigation Ltd

69. Ruapuna Irrigation Ltd is seeking to establish new irrigation in the Mayfield Ruapuna area. The company has applied for consents to take 8.0 m³/s for irrigation of about 16,500 ha. Advertised 18/12/1999.

Rangitata South Irrigation (RSIL)

70. RSIL was formed in 1999 with the aim of bringing reliable irrigation water to the land between the Orari and Rangitata Rivers from the foothills to the sea. The area to be irrigated would be 16,000 ha out of a total of 20,000 ha. We were advised that this land has no options for reliable irrigation from groundwater. The consent sought (advertised 12/4/2000) is for 5.94 m³/s for irrigation with a peak flow requirement 6-8 m³/s. The water would be taken from the Rangitata River between Arundel and Peel Forest. Witnesses for RSIL considered that the scheme would be worth \$24-48 m per year in increased farm gate sales. The total irrigation season demand (September – May) would be 115 million m³.

Ashburton River Irrigation Association Inc (ARI)

71. ARI has applied for a consent to take 3.0 m³/s from the Rangitata River to augment flows in the Ashburton River. At the time of our hearing this had not been advertised as further information had been requested by ECan. This water would enable the minimum flow in the Ashburton River to be raised, and would be expected to reduce the time that the mouth is closed.

Other new developments

Damming

72. Mid Canterbury Irrigation Enhancement Society (MCIES) outlined a proposal for a 50 m high dam in the Rangitata River gorge that would generate some 280 GWh of electricity as well as providing storage for sufficient irrigation water to meet the foreseeable demand (1000 million cubic metres of useable storage). This maximum sized reservoir would extend 18 km to just above the Forest Creek confluence. The reservoir would need to have an operating range such that it would only be drawn down a few metres in most years, but to a lower minimum level in drought years. Morten (for Rangitata South) told us that such a dam could irrigate an extra 95,000 ha. Damming is discussed further in Part VII.
73. Rangitata Sustainable Trust and Ashburton Community Water Trust both described a range of options for increased use of Rangitata water for primary production.

Conclusions

74. The RDR and its associated irrigation and hydro generation schemes are embedded in the local economy. We note that, based on average climatic conditions, over \$120 million of farm gate values of additional farm production is created directly from irrigation provided by the RDR.
75. Clearly there is a demand for further water for irrigation. The economic benefits to the businesses that obtain this water and to the wider communities are potentially large. Some proposals have proceeded to consent applications, whereas others are under consideration. Some parties noted that there was

adequate water in the region for all uses, especially if storage is developed, providing that some further allocation is available from the Rangitata River. As with the RDR, the new proposals would generally irrigate land outside the immediate catchment of the Rangitata River.

76. There were no particular proposals presented regarding the future needs of secondary industry or the community. We note that by comparison with the volumes required for irrigation the other needs are small, especially in view of the technical difficulties (and costs) of abstracting water from a large braided river.
77. Farm businesses within the catchment have legitimate concerns that water available for abstraction may be allocated to other areas and so deny them the opportunity for development. We note that MAF estimated that, based on an assessment of potentially irrigable land, another 11 m³/s could be used for irrigation in the Rangitata catchment.
78. We note that under the RMA a water conservation order could not deny reasonable use of water for domestic and stock supply or fire-fighting (S14(3)) or limit maintenance of existing structures such as roads and bridges.

Part V Plans, policy statements etc.

Introduction

1. Section 207(c) of the RMA requires the tribunal to have regard to: “The relevant provisions of every national policy statement, New Zealand coastal policy statement, regional policy statement, regional plan, district plan, and any proposed plan.”
2. While the RMA requires us to have regard to **every** regional policy statement, regional plan etc, we have considered only those that are relevant, that is those that have effect over part or all of the Rangitata River or were specifically referred to by witnesses (e.g. Opihi River Management Plan). While the National Biodiversity Strategy is not a national policy statement under the RMA, it was referred to in evidence. The Canterbury Conservation Management Strategy (CMS) is a regional document prepared under the Conservation Act and was also referred to in evidence.
3. We have identified the following documents as potentially relevant:

National policy statements

- The New Zealand Coastal Policy Statement

Regional policies and plans

- The Regional Policy Statement for Canterbury
- The Regional Coastal Plan for Canterbury
- Canterbury Natural Resources Plan (draft)
- Opihi River Management Plan
- Waimakariri River Management Plan

District plans

- Timaru District
 - Transitional District Plan, (Strathallan County Scheme)
 - Proposed District Plan
- Ashburton District Plan

Other plans and policies

- Rangitata River Water Management Plan 1986-1996 (South Canterbury Catchment Board and Regional Water Board) (described in Part I)
- New Zealand Biodiversity Strategy
- Canterbury Conservation Management Strategy (2000-2009)

New Zealand Coastal Policy Statement

4. The New Zealand Coastal Policy Statement (NZCPS) is a mandatory document under the RMA, prepared by the Minister of Conservation. This policy became operative in May 1994.
5. The purpose of the NZCPS, as set out in section 56 of the RMA, is to state policies in order to achieve the promotion of sustainable management of natural and physical resources in relation to the coastal environment of New Zealand. The “coastal environment” is not defined, either in the NZCPS or the RMA. In the context of the Rangitata River we understand that it includes the adjoining areas of open sea, the shingle bar and the lowest reaches of the river, back a distance probably of several kilometres.
6. We note that although the coastal environment is not defined, the coastal marine area (CMA) is defined in the RMA. It includes the foreshore, seabed and coastal water. Baker (DoC) advised us that for the Rangitata River the CMA extends inland 500m from the mouth. The coastal environment includes the CMA.
7. Various policies in the NZCPS may be relevant to a water conservation order for the Rangitata River. In summary, these include:
 - protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna (Policy 1.1.2);
 - protection of landscapes, seascapes and landforms, characteristics of special significance to Māori, and places or areas of historic or cultural significance. (Policy 1.1.3);
 - protection of the processes which provide for the natural movement of sediments, water and air, and their quality, and the natural movement of biota, and intrinsic values of ecosystems. (Policy 1.1.4);
 - restoration and rehabilitation of the natural character. (Policy 1.1.5);
 - protection of the habitats (in the coastal marine area) of species important for commercial, recreational, traditional or cultural purposes. (Policy 3.2.8).

Discussion

8. Hovell considered that the draft water conservation order (applicant’s version) is not inconsistent with the NZCPS. He considered that in the context of Policy 1.1.4, the proposed water conservation order would positively contribute by putting in place a regime to: enhance sediment and water flows; enhance water quality; and enable the opening of the river mouth, thereby enhancing the natural movement of biota. Overall he concluded that the purpose of the NZCPS will be promoted by adopting a water conservation order for the Rangitata River.
9. Batty assessed the NZCPS (and Canterbury Regional Coastal Plan (RCP)) and concluded that neither of these documents have anything to say which has a significant bearing on whether the water conservation order as sought should

proceed or not. Both are generally concerned to maintain the ‘natural’ coastal environment. In the case of braided alpine-fed rivers like the Rangitata however, those ‘natural’ processes would include the periodic transport of river gravel / shingle to the river mouth and the formation of natural bars.

10. Penter (Ngāi Tahu) referred to policies 1.1.3 and 2.1.1 and noted that NZCPS is relevant for this tribunal, and that the applicant’s draft covers the river from the source to the sea.
11. Counsel for Forest and Bird noted that the applicant’s draft water conservation order with Forest and Bird’s amendments (see Part VI) is consistent with NZCPS (and cites particular policies) and is relevant because of the relationship between river flows and coastal environment. Such a water conservation order would maintain the integrity, functioning and resilience of the coastal environment around the Rangitata River mouth.
12. Baker (DoC) stated that the draft water conservation order (applicant’s draft as amended by DoC) is not inconsistent with NZCPS and will promote its purpose.

Conclusions

13. We recognise that the CMA is excluded from the definition of a waterbody, and therefore a water conservation order cannot directly control activities in the CMA. However, we conclude that a water conservation order such as the applicant’s draft would not be inconsistent with the NZCPS.

Canterbury Regional Policy Statement

14. Status: Became operative in June 1998.
15. The Regional Policy Statement (RPS) for Canterbury recognises that the RMA provides for water conservation orders without setting out any policy framework for indicating support or opposition to water conservation orders in the Region.
16. A description of Canterbury’s Natural and Physical Resource Relationships is set out in Chapter 3. Section 3.1 describes Canterbury’s diverse environment, recognising that braided rivers, some of which are of international importance, are of significance as wildlife habitats, recreation areas (jetboating and salmon fishing) and as sources for irrigation. The high country is described as important for tourism and recreation (fishing, tramping, hunting, skiing), its landscape and remnant indigenous flora and fauna. Groundwater resources are also recognised. The Rangitata River is not explicitly referred to in these provisions.
17. Section 3.2(c) discusses Economic Inter-Relationships highlighting the key role of farming and the growing tourism and recreation industry. Increasing demand for irrigation both from groundwater and surface sources is also noted.
18. Chapter 5 deals with Matters of Resource Management Significance to the Tangata Whenua. This chapter was prepared by the Tangata Whenua and

represents matters of significance to them. It notes that: “Tangata Whenua regard the environment from a holistic approach from the mountains to the sea and do not look in isolation at environmental issues.” One of the "Outcomes Sought by Tangata Whenua" is to establish water flow and/or water level regimes for Canterbury water bodies which are subject to competing demands for their use. In the section "Measures Sought by Tangata Whenua to Achieve Outcomes", water conservation orders are given as a desired method. The RPS states that although water conservation orders are a measure sought by Tangata Whenua they are not something the Regional Council can provide for.

19. Chapter 9 of the RPS (“Water”) acknowledges that there are upper catchments and braided rivers having high water quality and / or high natural character and recreational use potential such that it may be desirable to sustain those characteristics. A number of water bodies are then identified as being candidates for such treatment, including the Rangitata, but only above the RDR intake. This appears to be the only direct reference to the Rangitata River in this document. A number of other water bodies are specifically identified as priority areas for water flow, level or allocation regimes in order to resolve the competing demands for water from those sources.
20. The water chapter addresses three issues: competing demands for water; land use effects on water quantity; and effects of land uses and discharges of contaminants on water quality.
21. Issue 1 addresses competing needs and requires water allocation regimes to achieve the criteria set out in Objective 1(a) – (h): (Note that these are abbreviated.)
 - (a) safeguarding sources of drinking water for people;
 - (b) safeguarding the life-supporting capacity of the water;
 - (c) safeguarding mahinga kai,
 - (d) protecting wāhi tapu and other wāhi taonga of value to Tangata Whenua;
 - (e) preserving the natural character of lakes and rivers;
 - (f) protecting outstanding natural features and landscapes;
 - (g) protecting significant habitat of trout and salmon;
 - (h) maintaining and, where appropriate, enhancing amenity values.
22. Policy 1 associated with this Issue and Objective has the effect that flow, level and allocation regimes should achieve the (a) – (g) above. Policy 2 then qualifies this by seeking to maximise the wellbeing obtained from the water resources provided that any adverse effects on (e) – (h) are remedied or mitigated.
23. Policy 3 promotes efficiency of water use, while Policy 4 promotes investigation of water bodies that should be managed in their natural state and provides also for the establishment of water flow, level or allocation regimes to resolve competing needs. Priorities for establishing regimes are then identified, referring to six water systems. The Rangitata River is not one of these priority water systems.

24. Policy 5 gives priority to existing resource consent holders, stating that any take, use, damming or diversion of water should not preclude reasonable use of existing consents, except with the agreement of the consent holder.
25. Policy 6 lists the matters Environment Canterbury will have regard to in considering any permit to take water. These include the need to: specify maximum permitted water usage over specific time periods, as well as maximum abstraction rates; and provide mechanisms to reduce or suspend abstractions during periods of low flow.
26. Issue 2 identifies that land uses can have both positive and negative effects on water flows and levels, and on water body values. The associated Objective and Policies relate to the use of land.
27. Issue 3 identifies that land uses and discharges of contaminants can adversely affect water bodies and coastal waters. The associated Objective is the same as the Objective for Issue 2. Policy 9 for this issue states that water quality conditions, standards and terms will be set out in plans and as conditions on consents to achieve the objective.
28. Policy 9 in part, together with Policy 10, seeks to protect and improve water quality in water bodies that are presently degraded. Policy 10 also states that Council intends to investigate and provide for water bodies that should be sustained in their natural state.
29. Chapter 10 deals with the beds of rivers and lakes and their margins. This chapter promotes rivers and their margins in the Canterbury Region as being: “vital elements of the Canterbury landscape and important habitats for indigenous floral and fauna”; providing “ a highly valued trout, whitebait and salmon fishery”; “Canterbury has the best examples of braided rivers in New Zealand”. Issue 1 then identifies that land use activities within water bodies, their beds and margins can have adverse effects and significantly reduce amenity values, cultural and recreational values, natural features and landscapes. Effects of concern include those associated with extracting river material. The associated objective seeks to protect and, where appropriate, enhance various values including: natural character; habitat within braided rivers; and significant habitat of trout and salmon.
30. Policy 1 then seeks to identify and protect areas containing important conservation values, stressing that land use activities should be undertaken in such a way as to avoid or mitigate adverse effects on various values including: spawning habitats or the unimpeded passage for fish, including salmon; significant habitats of indigenous flora and fauna; natural character; and amenity and recreation values.
31. Chapter 14 of the RPS deals with the matter of Energy. Policy 3 is “ To enable existing hydro-electricity infrastructure in the region to be maintained, upgraded and enhanced provided appropriate regional plan rules and consent conditions relating to protection of water quality and quantity are met.”

Discussion

32. ECan did not present an analysis of the RPS in the way that a number other parties have done. Mason (ECan) told us that ECan staff recommended that the Council support some of the provisions in the application for a Rangitata water conservation order because the objective in the Regional Policy Statement is to protect the values of the region's water bodies (Regional Policy Statement Chapter 9, Objective 1 (a) to (h)), regardless of whether they meet the threshold of "outstanding" in a national sense. Therefore, provisions in a water conservation order framed to protect "outstanding" values of the Rangitata River should not conflict with the Council's objectives and policies expressed through a regional plan.
33. Mason (ECan) also referred to Chapter 9 Objective 1 and Policies 1 and 2 of the RPS as setting the region's view of water management and comments that "These policies simply stated are that the Council will protect the values of rivers except that for amenity we will balance the community's needs with its other needs." He considers that the applicant's draft water conservation order is inconsistent with the provisions in existing regional plans and the Regional Policy Statement, and goes beyond the matters which need to be addressed in a water conservation order and which would be better dealt with through the regional plan process. He provides an alternative draft order which he believes better provides for the Rangitata River's outstanding values and leaves other matters irrelevant to the protection of outstanding values, to be dealt with through the regional plan process. We presume that ECan consider that their draft order would be consistent with the RPS.
34. Batty (RDR) comments that although the RMA provides for a water conservation order to be applied for, he does not consider that this can be seen to be consistent with the balanced examination and prioritisation approach reflected in the RPS, particularly when sought in relation to a whole river system. He considers that a water conservation order is relevant as a procedure in outstanding (exceptional) cases only. With respect to Chapter 14, policy 3 (Energy) he considered that "The proposed water conservation order would appear as a method to be inconsistent with and likely to frustrate any future 'enhancement' of such existing facilities served by the RDR."
35. Hovell (applicant) concluded that "Overall, the RPS seeks the protection of water conservation values, and the proposed water conservation order (applicant's version) is consistent with that. The RPS, however, is a policy document, not an implementation tool. Such action is left to other mechanisms, and a water conservation order is recognised as one such mechanism."
36. Counsel for Forest and Bird submitted that a water conservation order (applicant's version with higher minimum flows) is consistent with and would help implement a range of provisions in the RPS. Particular objectives and policies were identified.
37. Baker (DoC) noted that the RPS expresses matters in general terms through objectives and policies but gives little guidance on day-to-day management of the region's water resources and concluded that, in his opinion, the proposed

water conservation order (applicant's version with higher minimum flows) would greatly assist ECan to implement the RPS, especially without a regional plan covering the river.

38. Penter (Ngāi Tahu) drew our attention to Chapter 5 of the RPS and noted how Ngāi Tahu has signalled its concerns with the pressures on waterways, and has identified water conservation orders, including the applicant's draft, as acceptable and appropriate.

Conclusions

39. We note that it is not surprising that RPS does not advocate water conservation orders as this mechanism is not one that the regional council has direct control over.
40. We note that there is some disagreement as to whether or not a water conservation order as suggested by the applicant and others would be consistent with the RPS. We conclude that a water conservation order would support some policies and objectives, but could potentially constrain implementation of others, especially those relating to water allocation for out-of-river uses.

Regional Coastal Plan for Canterbury

41. Status: At the time of the hearing the Proposed Regional Coastal Plan (RCP) was not yet operative, being subject to references to the Environment Court. While the Plan relates to the "coastal environment" (see earlier reference in this section to NZCPS) the rules within it apply only to the coastal marine area, which extends 500m inland from the Rangitata River mouth (Baker, DoC).
42. Chapter 3 of the Plan provides a description of the coastal area, including "the mouths of braided rivers and their coastal lagoons provide important habitats for indigenous birds, fish, invertebrates and plants; river mouth areas have small holiday settlements, such as those of Rakaia Huts, Rangitata Reserve and Milford."
43. Within the Plan, the mouth of the Rangitata River is identified in Schedule 2 as being an "Identified Area of High Natural, Physical, Heritage or Cultural Value". The following values are identified: Maori Cultural Values; Wetland, Estuaries and Coastal Lagoons; Marine Mammals and Birds; and Ecosystems, Flora and Fauna Habitats. No rules refer to this schedule. However, within Chapter 6, Natural Character and Appropriate Use of the Coastal Environment, it appears that it is the intent that these values will be protected and, where appropriate, enhanced. (Objective 6.1 and Policy 6.1).

Discussion

44. Hovell (applicant) noted that the purpose of the applicant's proposed order is also to protect these and other values and therefore it is consistent with the proposed Regional Coastal Plan.
45. Baker (DoC) considered that the applicant's water conservation order is not inconsistent with the RCP and amendments to it proposed by DoC will serve to ensure that the river mouth is maintained as part of the natural functioning of the braided river system and to ensure passage for migratory native and introduced fish.
46. Batty concluded that the RCP, (as for the NZCPS) has nothing to say that has a significant bearing on whether the water conservation order as sought should proceed or not. Both are generally concerned to maintain the 'natural' coastal environment.
47. Forest and Bird concluded that the applicant's water conservation order with the Forest and Bird amendments would ensure that the river mouth is maintained as desired by RCP.

Conclusions

48. A water conservation order such as the applicant's draft would not be inconsistent with the RCP.

Ashburton District Plan

49. Status: Ashburton District Plan 2001: operative.
50. The Ashburton District Plan applies to the land to the north of the Rangitata River. The approach adopted in this Plan is one that emphasises the integrated management of natural and physical resources.
51. In the context of the Rangitata River, the District Plan effectively splits it in two. The upper river is considered to be in its natural state and the emphasis is on the protection of the natural environment, takata whenua values, recreational values and intrinsic values, both of the river and its setting. Within the lower river the role of farming is recognised and provided for, but activities are required to have regard to the cultural and recreational values of the river.
52. Relevant objectives and policies in the District Wide Issues include:
 - Nature Conservation Values: preserving the remaining natural character of rivers, wetlands and their margins and their value to Takata Whenua; maintaining, and where possible, enhancing the quality and quantity of water in rivers;
 - Landscape Values: maintaining and enhancing landscape values and natural features; and avoiding adverse effects of development and management changes

within outstanding landscapes in the District (including the upper Rangitata River Valley) and significant landscapes (including the Rangitata Gorge);

- **Takata Whenua Values:** management of natural and physical resources to maintain and protect values important to Tangata Whenua; recognising the Māori world view - the interconnectedness of all aspects of the natural world, including people.
- **Open Space and Recreation:** achieving public access over private land in areas having particular value for recreation; negotiating public access along the length of the Rangitata River, particularly from the outlet of the gorge to the coast.

53. The Plan identifies the headwaters of the Rangitata River in the western part of the District as being nationally important for their remoteness and wilderness values and their commercial and private recreational values. Their spiritual and cultural significance to takata whenua is also acknowledged. The Plan describes open space and recreation activities on the Rangitata River: “The Rangitata River is important for its fishery values, and is used by jetboats, particularly in its lower sections. The Rangitata Gorge and middle sections of the River are popular and challenging for kayaking and rafting, with commercial operators running rafting and kayaking trips on the river.”

54. The open fairway parts of Rangitata River bed are included on planning maps as areas of significance for nature conservation. They are described in the plan as:

48	Upper Rangitata River (Part)	J35 300 564, J36 669 144	RAP H21 (Rangitata River), SSWI (Rangitata River), WERI: An extensive area of braided river which provides a range of habitats for flora and fauna. Successional sequences are well represented and are maintained by active channelling and periodic reflooding. The bed is relatively weed free and provides an important habitat for several endangered bird species including blue duck (recorded breeding in the gorge) and the wrybill plover. South Island pied oystercatcher, black-fronted tern, banded dotterel, and black-billed gull are also present. The Potts fan is included in this area because of its habitat value for wrybill plover, banded dotterel, and a black stilt record.
49	Lower Rangitata River	J366 669 144 K38 905 675	SSWI (Rangitata), WERI: This river is one of the largest braided rivers in Canterbury. The river supports all the typical braided river bird species of Canterbury, including the threatened wrybill and black-fronted tern, and black-billed gull.

55. Under Natural Hazards it is recognised that communities in the Ashburton District are at potential risk from flooding, coastal erosion and inundation from the sea. The Rangitata River is identified due to its proximity to the Rangitata Hut settlement. When the river is in flood the Hut settlement is vulnerable to inundation. The Plan discourages development within areas potentially at risk.

56. In the Rural Issues, Objectives and Policies section the values of the Rangitata River as a water resource, for surface and groundwater, are recognised. The Rangitata Diversion Race as a source for irrigation, stock water and power generation is also highlighted. The importance of the river for fishing, boating, wildfowl hunting and other recreation is noted, as is the value of the upper

sections of the Rangitata River for fish during the spawning season. “The Rakaia and Rangitata Rivers are internationally renowned for salmon and trout.”

57. Amongst the policies and objectives within the Rural Issues, Objectives and Policies section the Ashburton District Council (ADC) seeks to:
 - avoid, remedy or mitigate adverse effects on overall ecosystem functioning, natural character and habitat values of the high country;
 - provide for productive rural activities while maintaining or enhancing cultural values and recreational attributes;
 - provide for the ongoing operation, maintenance and upgrade of rural irrigation and stock water systems, including the Rangitata Diversion Race.
58. Objective 9, Policy 1 states: “To recognise and provide for the continuing efficient use and development of the Rangitata Diversion Race, irrigation and stock water systems in the District and their importance to the District’s people and communities.”
59. The Council gives effect to this policy by providing for water supply intakes and community irrigation and stock water races as a permitted activity under Utility Rule 1.1. The Highbank and Montalto hydro power stations (on the RDR) are also “scheduled” in the Plan, with the existing operation being a permitted activity and modification being a controlled activity. In this way Council supports continued use of existing irrigation and power schemes, and future development.
60. The District Plan rules apply a number of provisions to the margins of lakes and rivers including restrictions on earthworks, vegetation clearance and buildings.
61. The Canterbury Regional Council has three designations in force over parts of the Rangitata River and its margins for the purpose of “soil conservation and river control works” over an area of some 339 ha.

Discussion

62. The Ashburton District Council acknowledged that its plan identifies areas in the Rangitata River which have special landscape, nature conservation, recreational, spiritual or cultural values. The Council noted that any damming of the Upper Rangitata Valley which floods these areas of the valley floor may significantly affect landscape values and would be contrary to the intent of the District Plan. The rural water provisions also recognise the importance of rural irrigation, including the RDR. The Council opposes a water conservation order, believing that a regional plan is more appropriate. Anderson (Mayor, ADC) noted that the Council is satisfied with the objectives and outcomes of the 1986 plan and has been disappointed at ECan’s failure to review this plan.
63. Baker (DoC), counsel for Forest and Bird, and Hovell (for applicant) considered that a water conservation order would assist the Ashburton District Council to implement the plan, believing that they both seek to protect the same values. Batty (RDR) disagreed with Hovell and Baker, finding an order incompatible

with the above objectives, policies, and anticipated environmental results for water issues in the Ashburton District Plan. He did, however, note that if an order is made it would be necessary for the tribunal to ensure that, as far as may be possible, any operational flow management restrictions imposed would not be inconsistent with the intended outcomes of the District Plan objectives and policies referred to above.

Conclusions

64. The Ashburton District Plan identifies features of the Rangitata River (especially the upper river and gorge) as outstanding and seeks to protect these, while also supporting rural production.
65. An order similar to that proposed by the applicant would probably not be inconsistent with the approach set out in the Ashburton District Plan. An order that decreased the reliability of existing irrigation would not be consistent with the Ashburton District Plan.

Timaru District Plan

66. Status: The proposed Timaru District Plan was not operative at the time of the hearing. However, as only a few references remain outstanding we do not consider that it is necessary to have regard to the pre-RMA Strathallan County Scheme which is the relevant transitional District Plan.
67. The Proposed Timaru District Plan applies to land bordering the Rangitata River to the south. It only refers directly to the Rangitata River in the context of rules for motorised boats.
68. Page 6 of the Plan summarises the philosophy of the Plan: “The District Plan is the Timaru District Council’s response to enabling the community and its individual members to meet their social and economic objectives, while recognising its responsibility to effectively manage natural and physical resources together with Council’s other duties under the Resource Management Act. These responsibilities require the Council to ensure that elements of the natural and physical environment identified as being important are protected or enhanced. Where there are adverse effects produced by an activity or arising from inefficient use of community infrastructures and services, every effort is made “to avoid, remedy or mitigate any adverse effect on the environment” (s17) that may detract from people’s enjoyment of the District.”
69. At a general level the District Plan also seeks to:
 - promote and enhance natural character and functioning and habitat values of streams, rivers and their margins;
 - promote and enhance opportunities for public access and recreational use of the margins of rivers, including using esplanade reserves and strips;
 - restrict the use of motorised craft on the Rangitata River;
 - avoid future development at Rangitata Huts in areas at risk from flooding and erosion;

- safeguard indigenous biodiversity and ecosystem functioning.
70. The District Plan zones land adjoining the Rangitata River on its true right bank as:
- Rural 1, including much of the arable land, other than the highly productive Class I or II land.
 - Rural 3, being the areas with high natural values, including high country, foothills and rivers.
71. The plan then outlines activities that are provided for within each zone and requires compliance with performance standards, including: “the protection of indigenous flora and fauna and river and coastal margins”.
72. Within the rural areas the objective and policy framework seeks to:
- protect water quality, soil integrity and stability, natural areas including riparian margins
 - protect and enhance the “ecological functioning, natural character and integrity” of rivers from inappropriate subdivision and development.
73. Although there are references in Part B of the Plan to the fact that Timaru District has a number of “outstanding natural features and landscapes”, these are not further identified either in the text or on planning maps.

Discussion

74. The Timaru District Council (TDC) considers that the applicant’s suggested order is incompatible with the Plan and Eunson (TDC) told us that “a number of activities are potentially affected including any activity that may directly or indirectly benefit from irrigation water from the Rangitata River.”
75. Baker (DoC) considers that the applicant’s suggested order, as amended by DoC is not inconsistent with the provisions of the proposed Timaru District Plan. He believes that the order will not compromise the policy framework of the plan, and would, in fact, strengthen the Council’s ability to protect the landscape and natural values of the Rural 3 Zone. Hovell concluded that “the proposed order (applicant’s version) is consistent with, and not contrary to, any of the provisions in this Plan.”
76. Batty concluded that “There are no references in this Plan that envisage or commend the need for a water conservation order to be applied to the Rangitata River.”

Conclusions

77. The Timaru Plan contains very limited direct reference to the Rangitata River, although there are policies, objectives etc. that are relevant.

78. An order similar to that proposed by the applicant would be consistent with the landscape and natural values objectives in the Timaru District Plan, but any order that reduced options for abstraction might not be consistent with this Plan.

Canterbury Natural Resources Regional Plan (draft)

79. Some sections of the Canterbury Natural Resources Regional Plan (NRRP) were released by ECan as a discussion draft during the hearing for this application. We note that, as it is only a discussion draft, S207(c) does not strictly apply to these documents. Neither ECan, nor any of the expert planning witnesses discussed the content of these drafts in their evidence.
80. Of the sections released we conclude that Chapter 5: Water Quantity and Chapter 7: Water Quality are relevant to our deliberations.

Water Quantity

81. This chapter deals with two major water management topics: setting flow and/or level management regimes to protect instream and intrinsic values of rivers, lakes and groundwater; and allocation of water to out-of-stream/consumptive uses.
82. Relevant objectives include: WQN1 Enable access to water while safeguarding and protecting instream values; WQN3 Water allocation; WQN5 Equitable allocation of water restrictions; WQN7 Manage effects of groundwater pumping on surface flow and allocation.
83. For each objective there are one or more policies. Those that are particularly relevant are summarised below.
84. Policy WQN1 is to retain river flows or lake levels in their natural state in listed water bodies including “all water bodies within the Southern Alps area of the Department of Conservation estate”. This would apply to much of the Clyde and Havelock Rivers and their tributaries. Draft rules would prohibit damming and new takes in these rivers.
85. Policy WQN2 seeks to retain the high degree of naturalness of selected water bodies including the Rangitata River upstream of and including the gorge. Methods for achieving this include preventing damming, preventing discharges of contaminants, ensuring that abstractions or diversions cease at set minimum flows.
86. Policy WQN3 applies to waters outside of those covered by policies 1 and 2, and would apply to the Rangitata River downstream of the gorge. Taking, use, diversion or damming of surface water would be controlled with the objective of enabling water use while safeguarding a range of instream values including life-supporting capacity, values important to Ngāi Tahu, protecting outstanding natural features, protecting habitat of trout and salmon and maintaining and enhancing amenity values.

87. Policy WQN12 sets out how ECan proposes to deal with allocation of water to users. Objective WQN3 includes maximising the amount of water available for allocation. The Rangitata River is one of a number of rivers listed in a separate schedule. ECan proposes to set allocation limits in blocks with the primary allocation block having high water availability in three out of five years, and the secondary block a lesser certainty. The notes on the Rangitata River in schedule WQN1 state that the Rangitata is considered to be outstanding for a number of values including its salmon fishery, trout and salmon angling, wild and scenic gorge, habitat for aquatic birds, importance to Ngāi Tahu and the glaciated headwaters catchments. ECan considers that the existing minimum flow is too low to protect the mauri of the river and other outstanding values. The schedule sets a minimum flow of 30 m³/s for August – March and 20 m³/s April to July for A & B permits and 63 m³/s August – March and 53 m³/s April to July for C permits.
88. Policy WQN19 sets out ECan's approaches to managing the impact of groundwater takes on surface water bodies.

Water Quality

89. Chapter 7 Water Quality sets out policies, rules etc. to manage water quality to achieve desired standards.
90. Objective WQL 1.1 aims to retain water that is in a natural state in that way, and where water is not in a natural state desired water quality standards are given.
91. Relevant policies relate to management of point-source and non-point discharges into surface water. Rules control consents for land uses as well as discharges of contaminants.
92. The desired environmental results from the water quality section include: No decline in the water quality of waters in a natural state, and improvement in the quality of waters not in a natural state. The quality of discharges to water or onto land will be improved, and a riparian management strategy will be implemented to protect and restore riparian vegetation.

Conclusions

93. We note that the proposed higher minimum flow and higher allocation to out-of-stream uses, with A, B & C permits is significantly different to the regime proposed by the applicant's draft order. If an order is made that sets a cap on abstraction, as proposed by the applicant, the NRRP proposal could not be implemented.
94. The NRRP objectives regarding safeguarding and protecting instream values, retaining the naturalness of the Rangitata River above the gorge, and maintaining or improving water quality would not be inconsistent with a water conservation order with similar objectives.

Opihi River Management Plan & Waimakariri River Management Plan

95. Mason (ECan) told the tribunal that in drafting a water conservation order “it would also be desirable to ensure that there is reasonable consistency with the regional rules that have been applied in the operative Opihi River Regional Plan and the proposed Waimakariri River Regional Plan and are likely to be applied to other rivers in the region.”
96. The operative Opihi River Regional Plan and Proposed Waimakariri River Regional Plan apply a system of “A” and “B” permits where “ “B” permits have a minimum flow equal to the “A” permit minimum flow plus the allocation for “A” permits. Hence they have a much lower reliability of supply. The “A” permit limit is set on the basis of reliability of supply to abstractors. Mason described how there is an element of judgement of what is an acceptable reliability of supply on a run-of-river basis. He noted that for the Waimakariri River the reliability of supply of a 25 m³/s allocation with a 41 m³/s river minimum flow ranges from a high of 95% in October to 45% in February and that very high reliability can only be guaranteed if a river is allowed to be depleted below its lowest natural recorded flow and if the total take is set at a very low level, or if there is storage in the system.”

Conclusions

97. We note that, if a water conservation order is made, then ECan would prefer that any rules are consistent with those in the Opihi and Waimakariri Regional Plans. ECan advocates a system of “A” and “B” permits (See discussion on draft Natural Resources Regional Plan in this section).

New Zealand Biodiversity Strategy

98. The New Zealand Biodiversity Strategy (February 2000) establishes a strategic framework for action to conserve and sustainably manage NZ’s biodiversity. The primary focus is on indigenous biodiversity, but introduced species are also addressed. Freshwater biodiversity is one of ten themes. Desired outcomes for 2020 include maintaining or restoring the extent and condition of freshwater ecosystems and habitats. The action plan for protection and sustainable management of freshwater ecosystems includes using management mechanisms under the RMA.
99. The Department of Conservation advised us that the NZ Biodiversity Strategy is one of the policy / strategy documents that guides its advocacy on water conservation issues. We note that DoC supported a water conservation order.

Conclusions

100. We conclude that a water conservation order that supports the goals and objectives of conserving or sustainably managing freshwater ecosystems,

habitats and species (native and introduced) is likely to be compatible with the NZ Biodiversity Strategy.

Canterbury Conservation Management Strategy

101. The Canterbury Conservation Management Strategy (CMS) is a statutory document written under the provisions of the Conservation Act, 1987, and approved by the New Zealand Conservation Authority in July 2000. The CMS sets out the management directions the Canterbury Conservancy of DoC will take for the next ten years, the objectives it wants to achieve and the means by which it will achieve these.
102. In the implementation section of the CMS water conservation orders are stated to be one of the appropriate protection mechanisms for waters in the Hakatere Ecological District (upper Ashburton / upper Rangitata / Ashburton lakes).

Conclusions

103. A water conservation order such as the applicant's draft with the DoC alterations (see Part VI) would be consistent with the CMS.

“The 1986 Plan” (see Part I)

104. The Rangitata River Water Management Plan 1986-1996 (South Canterbury Catchment Board and Regional Water Board) referred to as “the 1986 Plan” (described in Part I) forms the basis for the current operating regime. It was developed to “manage and provide for planned utilisation of the water resources of the Rangitata River and its tributaries pursuant to the aims and objectives of section 20 5(d) of the Water and Soil Conservation Act 1967.” Further details of the plan are given in Part I.

Conclusions

105. This plan is non-statutory and pre-dates the RMA. However, a water conservation order, such as the applicant's draft would not be inconsistent with the objectives of this plan.

Part VI Water management regimes recommended to the tribunal

1. During the course of the hearing the tribunal was presented with several suggested flow management regimes for the Rangitata River, in addition to the present operating rules. Some parties provided their analysis and views on comparisons between different proposals. We describe a number of the regimes here. Where these are referred to elsewhere in the report they are referred to as ECan, DoC, Mosley, Forest and Bird and the applicant's options.
2. ECan presented two options - one that had been approved by the Council, and a second that was called the staff version. We consider the Council approved version is the regime that ECan has recommended to the tribunal, and it is this version that is described below. We note, however, that it is not always clear which ECan version has been used for analysis by other parties where they have produced evidence comparing the effects of different proposals.
3. Parties generally recognised that a water conservation order could not affect existing lawful uses, maintenance of roads and bridges, domestic and stockwater and fire-fighting takes etc.

The Applicant (“applicant”)

4. The applicant recommended an order that included the following provisions:
 - Prohibition of damming in the Rangitata River, specified salmon spawning tributaries, and the Clyde and Havelock Rivers;
 - Restrictions on alteration of the channel form and braided river characteristics;
 - Minimum flows of
 - 15 m³/s from 15 May - 14 September;
 - 20 m³/s from 15 September - 14 May;
 - A cap on total abstraction, including shallow groundwater, of 33 m³/s;
 - Abstraction limited to existing points and takes;
 - Adequate natural fish passage must be maintained;
 - Fish must be prevented from entering any water off-takes;
 - Water quality must be maintained at the standards in Class FS (RMA) for waters identified as outstanding for salmon spawning, and Class F for other water with outstanding characteristics;
 - Shallow groundwaters within 15 m of the ground surface and less than 1000m either side of the main river downstream from Klondyke to be included in rules relating to abstractions;
 - Protection of the existing allocation of the 30.7 m³/s to the Rangitata Diversion race, at its existing location.
5. In addition the applicant's proposed flow regime included the following tables which set out workable rules for sharing water between instream and abstraction. We note that these tables are substantially the same as the current operating rules and are derived from the 1986 Plan (see Part 1), although the

irrigation season has been adjusted from 1 September – 30 April to 15 September – 14 May.

6. 15 May – 15 September: Flows between 30 and 66 m³/s to be shared between instream retention and water abstraction based on the following table:

Flow at Klondyke (m ³ /s)	RDRM Ltd	Stockwater	Other irrigation	Residual flow
66-60.1	30.7	1.0		33.3-28.4
60.0-50.1	26.5	1.0		32.5-22.6
50.0-40.1	22	1.0		27-17.1
40.0-38.1	22	1.0		17-15.1
38.0-36.1	20	1.0		17-15.1
36.0-34.1	18	1.0		17-15.1
34.0-32.1	16	1.0		17-15.1

7. 15 September – 14 May: Flows between 40 and 66 m³/s to be shared between instream retention and water abstraction based on the following table:

Flow at Klondyke (m ³ /s)	RDRM Ltd	Stock-water	Other irrigation	Residual flow
66-60.1	30.7	1.0	1.3	33-27.1
60.0-50.1	26.2	1.0	0.9	31.9-22.0
50.0-43.1	21.8	1.0	0.3	26.6-20.0
43.0-40.1	18.9	1.0	0.2	22.8-20.0

8. Te Rūnanga o Ngāi Tahu and Te Rūnanga o Arowhenua supported the applicant's suggested water conservation order as it recognises, provides for and protects the characteristics of the Rangitata River that Ngāi Tahu consider are outstanding.

Department of Conservation (“DoC”)

9. The Department of Conservation (DoC) supported the making of a water conservation order including a flow regime based on minimum monthly flows, as measured at Klondyke, as follows:
- May – July, a minimum flow of 20 m³/s
 - August, a minimum flow of 35 m³/s
 - September - January, a minimum flow of 40 m³/s
 - February - April, a minimum flow of 30 m³/s
10. In addition DoC's recommended flow regime included:

- A restriction on damming
- Resource consents granted must maintain channel cross section, meandering pattern and braided river channel characteristics
- No alteration of water quality
- Fish passages to be maintained
- Fish to be prevented from entering any intake;
- Current abstraction of 33 m³/s permitted to continue, with 1:1 sharing between instream retention and out of river abstraction for any new takes in excess of 33 m³/s
- Year round protection of flood flows in excess of 250 m³/s

Environment Canterbury (“ECan”)

11. ECan did not support the making of an Order but recommended the following provisions:
 - Waters in Clyde and Havelock Rivers, Black Mountain Stream, Deep Creek, Deep Stream and Brabazon Fan be retained in their natural state
 - For the remainder of the river:
 - 1 April - 31 July, a minimum flow of 20 m³/s
 - 1 August - 31 March, a minimum flow of 30 m³/s
 - 1 December - 31 March a minimum flow of 50 m³/s when flow at Klondyke is between 120-90 m³/s
 - No reduction in water quality
12. In addition ECan’s recommended flow regime included:
 - No “cap” on abstractions;
 - Hydraulically connected groundwater be identified using the “Jenkins method” and be included with groundwater abstractions in flow rules;
 - No dam or weir to be constructed unless the effects are no more than minor on natural flows.
13. Note that the “Jenkins method” for calculating hydraulically connected groundwater is described in Jenkins, C T (1977) Computation of rate and volume of stream depletion by wells, in Techniques of Water Resources Investigation of the United States Geological Survey, Chapter D1, Book 4, 3rd printing.
14. Counsel for ECan submitted that it would be ultra vires the powers of this tribunal to recommend a water conservation order that made specific provision for the RDR abstraction.

Dr Paul Mosley (“Mosley”)

15. Mosley provided a regime that sought to “sustain the widest possible range of intrinsic and amenity values” . It included:
 - April – July, a minimum flow of 20 m³/s
 - August – November, a minimum flow of 35 m³/s
 - December – March, a minimum flow of 50 m³/s

16. In addition the flow regime included:
 - Protection of flows above 250 m³/s at all times
 - Maintenance of water quality above bathing water standards
 - If damming:
 - Agreed optimum flow releases for rafting and kayaking;
 - Maintain clarity in cloudy or milky state at all times.
17. Mosley noted that there is room for debate over the particular flow values, in order to achieve management objectives for the river that as yet have not been clearly defined.

Rangitata Diversion Race Management Ltd and Trustpower (“RDR”)

18. RDRM Ltd and Trustpower did not support an order, but noted that if one is made they would require:
 - Specific reference to be made to Rangitata Diversion Race Management Ltd and the Map reference NZMS260 J36:678-144
 - Provision for harvest of water should be made above flows of 110 m³/s subject to a 1:1 flow sharing regime

Royal Forest and Bird Protection Society Inc (“Forest and Bird”)

19. Forest and Bird recommended the following provisions in an order:
 - Flows in and above the gorge be maintained in their natural state
 - Minimum flow of 50 m³/s for September – January
 - Minimum flow of 35 m³/s for February – August
 - A 1:1 flow sharing regime above the minimum, between in-stream and out-of-river abstractions
 - Protection of floods in excess of 100 m³/s
20. Forest and Bird also supported the applicant’s recommendations on
 - Damming restrictions
 - Alterations to river form
 - Water quality
 - Fish passage